

Title (en)

A FIBER OPTIC FORCE SENSING CATHETER

Title (de)

KATHETER MIT GLASFASERKRAFTSENSOR

Title (fr)

CATHÉTER DE DÉTECTION DE FORCE DE FIBRES OPTIQUES

Publication

EP 2385802 A1 20111116 (EN)

Application

EP 10705179 A 20100108

Priority

- IB 2010000021 W 20100108
- US 14371809 P 20090109

Abstract (en)

[origin: US2009177095A1] A fiber optic force sensing assembly for detecting forces imparted at a distal end of a catheter assembly. The structural member may include segments adjacent each other in a serial arrangement, with gaps located between adjacent segments that are bridged by flexures. Fiber optics are coupled to the structural member. In one embodiment, each fiber optic has a distal end disposed adjacent one of the gaps and oriented for emission of light onto and for collection of light reflected from a segment adjacent the gap. The optical fibers cooperate with the deformable structure to provide a change in the intensity of the reflected light, or alternatively to provide a variable gap interferometer for sensing deformation of the structural member. In another embodiment, the gaps are bridged by fiber Bragg gratings that reflect light back through the fiber optic at central wavelengths that vary with the strain imposed on the grating.

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

See references of WO 2010079418A1

Cited by

US11899249B2; US11931179B2; WO2023177889A1

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